

WHAT IS CLAIMED IS:

1. A composite comprising a first substrate and a bonded mixture, said bonded mixture comprising a mixture of binder particles and super-absorbent polymer particles, wherein said binder particles are on average smaller than said super-absorbent polymer particles, wherein at least some of said binder particles coalesce at least some of said bonded mixture to said substrate, wherein at least some of said bonded mixture forms a three-dimensional array of elongated channels upon contact with a liquid.
2. The composite of claim 1, wherein at least some of said bonded mixture has the property of collecting liquid within said three-dimensional array, and the collected liquid in said array is absorbed by at least some of said bonded mixture.
3. The composite of claim 1, further comprising a second substrate, and said bonded mixture is between said first substrate and said second substrate, and wherein at least some of said binder particles coalesce at least some of said bonded mixture to said second substrate.
4. The composite of claim 1, wherein said bonded mixture has a dry thickness of less than about 2 millimeters.
5. The composite of claim 3, wherein said bonded mixture has a dry thickness of less than about 2 millimeters.
6. The composite of claim 1, wherein a liquid permeable acquisition layer is in liquid communication with said bonded mixture.
7. The composite of claim 3, wherein a liquid permeable acquisition layer is in liquid communication with said bonded mixture.
8. The composite of claim 1, wherein said first substrate is semi-permeable or impermeable to liquid.

9. The composite of claim 3, wherein said first substrate and said second substrate are either semi-permeable to liquid, impermeable to liquid, or a combination thereof.

10. A method of absorbing liquid comprising the steps of:

a) placing a composite adjacent to a liquid source, wherein said composite comprises a first substrate and a bonded mixture, said bonded mixture comprising a mixture of binder particles and super-absorbent polymer particles, wherein said binder particles are on average smaller than said super-absorbent polymer particles, wherein at least some of said binder particles coalesce at least some of said bonded mixture to said substrate, and wherein at least some of said bonded mixture forms a three-dimensional array of elongated channels upon contact with a liquid from said liquid source; and

b) absorbing the liquid by means of at least some of said bonded mixture.

11. The method of claim 10, wherein at least some of said bonded mixture has the property of collecting liquid from said liquid source within said three-dimensional array, and the collected liquid in said array is absorbed by at least some of said bonded mixture.

12. The method of claim 10, wherein said composite further comprises a second substrate, and said bonded mixture is between said first substrate and said second substrate, and wherein at least some of said binder particles coalesce at least some of said bonded mixture to said second substrate.

13. The method of claim 10, wherein said bonded mixture has a dry thickness of less than about 2 millimeters.

14. The method of claim 12, wherein said bonded mixture has a dry thickness of less than about 2 millimeters.

15. The method of claim 10, further comprising a liquid permeable acquisition layer in liquid communication with said bonded mixture.

16. The method of claim 12, further comprising a liquid permeable acquisition layer in liquid communication with said bonded mixture.

17. A liquid absorbent pad which comprises:

an outer layer of a substantially liquid-impervious material having an outer surface and an inner surface;

at least one composite segment positioned on said inner surface of said liquid impervious material, said at least one composite segment comprising a first substrate and a bonded mixture, said bonded mixture comprising a mixture of binder particles and super-absorbent polymer particles, wherein said binder particles are on average smaller than said super-absorbent polymer particles, wherein at least some of said binder particles coalesce at least some of said bonded mixture to said substrate, and wherein at least some of said bonded mixture forms a three-dimensional array of elongated channels upon contact with a liquid; and

a liquid-permeable acquisition layer in liquid communication with said at least one composite segment, wherein at least a portion of said outer layer and said liquid permeable acquisition layer are directly or indirectly attached, and said at least one composite segment is sandwiched therebetween.

18. The liquid absorbent pad of claim 17, wherein said at least one composite segment further comprises a second substrate, and said bonded mixture is between said first substrate and said second substrate, and wherein at least some of said binder particles coalesce at least some of said bonded mixture to said second substrate.

19. The liquid absorbent pad of claim 17, wherein said at least one composite segment has a bonded mixture having a dry thickness of less than about 2 millimeters.

20. The liquid absorbent pad of claim 18, wherein said at least one composite segment has a bonded mixture having a dry thickness of less than about 2 millimeters.